

**Master of Library
and
Information Science
(MLISc.)**

● ————— **Semester-I** ————— ●



Scheme of M.L.I.Sc. Papers (as per the NEP 2020 Framework)

Options	Type of Course	Nomenclature of Course:	Credits Distribution			Total Credits	Internal Assessment Marks	Examination Marks	Total Marks
	Post Graduate Professional	Master of Library and Information Science	Lecture	Tutorial	Practical				
Semester I									
Core Courses	DSC-1	Research Methodology	3	1	0	4	30	70	100
	DSC-2	Information and Communication Technology Applications in Libraries: Theory	3	1	0	4	30	70	100
	DSC-3	Marketing of Library and Information Products and Services	3	1	0	4	30	70	100
	DSC-4	Information Systems and Programmes	3	1	0	4	30	70	100
Discipline Specific	DSE-1	*Universal Decimal Classification: Practical	0	0	4	4	30	70	100
	DSE-2	Choose any one of the following:				4			
		Data Analytical and Visualization	3	1	0		30	70	100
		*Content Development: Practical	0	0	4		30	70	100
		*Cataloguing of Non-Book Materials: Practical	0	0	4		30	70	100
TOTAL CREDITS					24	TOTAL MARKS			600
General Elective**	GE-1	Choose any one of the following:							
		Research Metrics and Visibility	3	1	0	4	30	70	100
		*Academic Writing Tools: Practical	0	0	4		30	70	100
		*Reference Creation and Management Tools: Practical	0	0	4		30	70	100
* Practical papers will have 8 (4x2) classes per week									
** General Elective papers are meant for students of the other departments.									
Note: New concepts/developments which will take place may be included in the teaching of the course by the concerned teachers.									

DSC 1

Research Methodology

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC 1: Research Methodology	4	3	1	0	BLISc	-

Course Objectives

Students will master research fundamentals and methodologies tailored for Library and Information Science. The course focuses on selecting data collection tools, applying advanced statistical techniques using SPSS, and developing professional research reports that adhere to ethical standards and citation guidelines.

Learning Outcomes

After completing this course, students will be able to:

- ☞ Apply the various statistics and statistical techniques to do research.
- ☞ Select appropriate data collection tool to gather data and use statistical methods to analyze the data and
- ☞ Use statistical package such as SPSS to data curation and data analysis.
- ☞ Create research report using standards and tools.

UNIT I: Introduction to Research

10 Hours

- ☞ Fundamentals of Research: Concept, Meaning, Need, Types and Process of Research
- ☞ Research Problem
- ☞ Review of Literature
- ☞ Research Design
- ☞ Formulation of Hypotheses

UNIT II: Research Methods and Data Collection 10 Hours

- ☞ Historical, Survey, Experimental, Case Study and Delphi Method
- ☞ Scientific Research, Statistical Research, etc.
- ☞ Various Approaches to Research
- ☞ Data Collection Methods, Sampling and Techniques

UNIT III: Statistical Tools and Techniques 15 Hours

- ☞ Measures of Central Tendency and Dispersion
- ☞ Correlations and Regression, Factor Analysis, ANOVA, etc.
- ☞ Parametric and Nonparametric Tests
- ☞ Testing of Hypotheses
- ☞ Data Presentation and Visualization
- ☞ Application of Statistical Packages
- ☞ Metric Studies

UNIT IV: Citation Styles and Report Writing 10 Hours

- ☞ Report Writing
- ☞ Citation Styles and Reference Management System
- ☞ Research Ethics and Plagiarism

Essential Reading

- ☞ BUSHA (C) and HARTER (SS). Research methods in librarianship: techniques and interpretation. Academic Press, Orlando. 1980.
- ☞ BUSHA (CH). Research methods in librarianship. Academic Press, New York. 1990.
- ☞ CHARLES (H) and others. Research methods in librarianship: techniques and interpretations. Sage, New Delhi. 1993.
- ☞ CRESWELL (JW) and CRESWELL (J. David). Research design: qualitative, quantitative, and mixed methods approaches. Sage Publications, California. 2022.
- ☞ GOODE (WJ) and HATT (PK). Methods in social science research. McGraw-Hill, New Delhi. 1986.
- ☞ KOTHARI (CR) and GARG (GAURAV). Research Methodology: Methods and Techniques. New age Int. Pub., 2023
- ☞ POWELL (RR) and SILIPIGNI (CL). Basic research methods for librarians. Ed. 4. Libraries Unlimited, Westport. 2004.

Suggested Reading

- ☞ DENZIN (Norman K.) and LINCOLN (Yvonna S.) Eds. The SAGE Handbook of Qualitative Research. Sage Publications, 2017
- ☞ DEVAKUMAR (G). Research methodology: A Step-by-Step Guide to Research Methods, Analysis and Report Writing with Case Studies. National Academic Press, 2025.
- ☞ GOON (AM). Fundamentals of statistics. World Press, Calcutta. 2000.
- ☞ GREENFIELD (T). Research methods: guidance for postgraduates. Hodder Arnold, London. 1996.
- ☞ KRISHAN KUMAR. Research methods in library and information science. Rev. Ed. Har Anand Publications, New Delhi. 1999.
- ☞ LANCASTER (FW) and POWELL (RR). Basic research methods for librarians. Ablex
- ☞ SINGH (SP). Research methods in social sciences: a manual for designing questionnaires. Kanishka, New Delhi. 2002.

DSC 2

Information Technology Applications in Libraries: Theory

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre- Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC 2: Information Technology Applications in Libraries: Theory	4	3	1	0	BLISc	-

Course Objectives

This course explores the integration of emerging technologies like AI, Blockchain, and IoT within library environments. Students will learn to manage digital resources, implement user-centric services through automation and virtual reality, and address the ethical and practical frameworks required for modern technological adoption.

Learning Outcomes

After completing this course, students will be able to:

- ☞ Understand key emerging technologies and their role in libraries.
- ☞ Apply modern technologies for efficient resource management.
- ☞ Develop user-centric library services using advanced digital tools.
- ☞ Evaluate implementation, ethics, and future trends in library technologies.

UNIT I: Emerging Technologies in Libraries

11 Hours

- ☞ Artificial Intelligence (AI) and Machine Learning
- ☞ Blockchain Technology, Cloud Computing and Big Data Analytics

- ☞ Internet of Things (IoT), Drones and Robots
- ☞ Augmented Reality (AR) and Virtual Reality (VR)

UNIT II: Resource Management Technologies **12 Hours**

- ☞ Electronic Resource Management Systems (ERMS)
- ☞ Radio Frequency Identification (RFID)
- ☞ IoT-based Tracking and Smart Shelves
- ☞ Cloud-based Library Platforms
- ☞ Digital Library Software and Institutional Repositories
- ☞ Blockchain Applications in Digital Rights Management and Secure Transactions

UNIT III: User-Centric Technologies and Services **12 Hours**

- ☞ AI-Powered Search and Discovery Tools
- ☞ Chatbots and Virtual Assistants for Reference Services
- ☞ Recommender Systems for Personalised Information Delivery
- ☞ Augmented Reality and Virtual Reality Application in Information Literacy and Exhibitions
- ☞ Mobile Library Applications and Responsive Interfaces

UNIT IV: Implementation, Ethics, and Future Trends

10 Hours

- ☞ Technology Planning and Adoption frameworks in libraries
- ☞ Data privacy, security, and ethical concerns
- ☞ Staff training and capacity building for emerging technology integration
- ☞ Policy guidelines and standards for technology-enabled library services.
- ☞ Criteria for Selection and Implementation of Emerging Technologies

Essential Readings

- ☞ AKEROYD (John). Information and communication technology in libraries: Trends and issues. 2019.
- ☞ AMERICAN LIBRARY ASSOCIATION. Library Technology Reports (various issues). Chicago: American Library Association. 2021.

- ☞ BERTOT (JC) and CHOI (H). Emerging technologies in libraries: Concepts, applications, and impact. 2020.
- ☞ IFLA. Guidelines for emerging technologies in libraries. 2022.
- ☞ UNESCO. Policy guidelines for the adoption of emerging technologies in knowledge institutions. 2023.

Suggested Readings

- ☞ CHOI (Y) and YI (H). Artificial intelligence and libraries. *Journal of Academic Librarianship*. 2021.
- ☞ KAVITHA (K). Emerging trends and technologies in libraries. New Delhi: Ess Ess Publications. 2021.

DSC 3

Marketing of Library and Information Products and Services

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC 3: Marketing of Library and Information Products and Services	4	3	1	0	BLISc	-

Course Objectives

This course introduces fundamental marketing principles and strategic planning specifically for library environments. Students will learn to conduct market research, implement digital promotion strategies, and develop consolidated information products to enhance library visibility and service sustainability.

Learning Outcomes

After completing this course, students will be able to:

- ☞ Explain the fundamental principles, concepts, and environmental factors influencing the marketing of library and information services.
- ☞ Apply strategic marketing planning, research tools, and analysis techniques in designing user-centred LIS marketing programs.
- ☞ Develop and implement promotional strategies, pricing models, and digital marketing methods for effective dissemination of LIS products and services.
- ☞ Evaluate consultancy practices, information product development, and repackaging methods to enhance library visibility and sustainability.

UNIT I: Fundamentals of Library Marketing **11 Hours**

- ☞ Library Marketing: Concept, Needs, Objectives, and Philosophy
- ☞ Marketing Environment
- ☞ Market Segmentation in LIS
- ☞ Marketing Mix
- ☞ Marketing Information System (MIS)

UNIT II: Strategies, Planning, and Market Research **12 Hours**

- ☞ Strategic Planning for Marketing Library Services
- ☞ Marketing Research: Tools, Techniques, and Applications in Libraries
- ☞ Marketing process in LIS
- ☞ Use of SWOT, PEST, and Competitive Analysis in Library Marketing

UNIT III: Promotion and Delivery of LIS Products and Services **12 Hours**

- ☞ Pricing Models and Distribution Channels
- ☞ Communication Strategies: Advertising, Public Relations, Sales Promotion
- ☞ E-marketing and Digital Promotion Methods for Libraries
- ☞ Social Media Marketing

UNIT IV: Management Consultancy and Information Product Development **10 Hours**

- ☞ Management Consultancy
- ☞ Role of LIS Schools and Library Associations in Consultancy Services
- ☞ Information Analysis and Consolidation
- ☞ Packaging and Repackaging of Information
- ☞ Designing and Developing Consolidated Information Products for Users

Essential Readings

- ☞ BHATT (RK) and BABBAR (P). Marketing Management and Marketing Consultancy in Libraries. Delhi, Sharda Publications. 2022.

- ☞ BHATT (RK). The Survival Kit for Libraries: A Marketing Approach. Delhi, K.K. Publications. 2018.
- ☞ BAKEWELL (KG). Managing user-centred libraries and information services. 2nd ed. London, Maxwell. 1997.
- ☞ CARPENTER (J) and DAVIES (R). Quantification of the overseas consulting market for professional consultancy services in librarianship and information science and information management. London, British Library. 1992.
- ☞ CHAKRABORTY (S). Marketing in library and information services: a changing paradigm. New Delhi, EssEss Publications, 2014.
- ☞ COOTE (H) and BATCHELOR (B). How to market your library services effectively. 2nd ed. London, ASLIB. 1997.
- ☞ GUPTA (DK) and others. Marketing library and information services: international perspectives. Munich, K. G. Saur. 2006.
- ☞ KOTLER (P). Marketing management. 12th ed. Delhi, Prentice-Hall. 2002.

Suggested Readings

- ☞ HELINSKY (ZA). Shortcut to marketing the library. Oxford, Chandos Publishing. 2008.
- ☞ JAIN (AK) and others. Marketing information products and services: a primer for libraries and information professionals. New Delhi, Tata McGraw-Hill. 1999.
- ☞ KOTLER (P) and ARMSTRONG (G). Principles of marketing. 7th ed. New Delhi, Prentice Hall of India. 1996.
- ☞ RAINA (RL). Professional management of library and information systems. New Delhi, Concept Publishing. 1999.
- ☞ ROWLEY (J). Information marketing. London, Ashgate. 2001.
- ☞ SINGH (KP). The Planner: Actions and Reflections. Today & Tomorrow's Printer and Publishers. 2025
- ☞ WEINGAND (DE). Preparing for the customer-driven library: managing programs and services. London, Library Association Publishing. 1995.

DSC 4

Information Systems and Programmes

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC 4: Information Systems and Programmes	4	3	1	0	BLISc	-

Course Objectives

This course examines the structure and function of local, national, and global information systems. Students will analyze information policies, explore international programs like UNESCO and INIS, and study the collaborative role of resource sharing, library networks, and consortia in modern information dissemination.

Learning Outcomes

After completing this course, students will be able to:

- ☞ Explain the concepts, types, and characteristics of information systems and organizations.
- ☞ Analyze various information products and their role in information dissemination.
- ☞ Examine the need, structure, and formulation of information policy and national information systems.
- ☞ Evaluate the role of national and international information systems and organizations.

UNIT I: Information Systems and Organizations 10 Hours

- ☞ Information Systems: Concepts, Types, and Characteristics
- ☞ Information Organizations: Definition, Objectives, Types, and Functions
- ☞ Information Products: Definition, Objectives, Types, and Use
- ☞ Library and Information Services: Definition, Types, and Use

UNIT II: Information Policy and National System of Information Services 11 Hours

- ☞ Information Policy: Need, Purpose, and Process
- ☞ National System of Information Services: Planning, Design, and Structure
- ☞ National Information Systems

UNIT III: Global Information Systems 12 Hours

- ☞ IFLA and UNESCO: Contribution, Programmes, and Activities
- ☞ UNISIST, INSPEC, and INIS
- ☞ AGRIS, MEDLARS/MEDLINE, and INFOTERRA

UNIT IV: Resource Sharing, Library Networks, and Consortia 12 Hours

- ☞ Resource Sharing: Concept, Need, Purpose, and Areas
- ☞ Library Networks: Concept, Need, Purpose, and Types
- ☞ Library Networks: DELNET, INFLIBNET, National Knowledge Network
- ☞ Library Consortia: ONOS, CSIR-National Knowledge Resource Consortium

Essential Readings

- ☞ ATHERTON (P). Handbook for information systems and services. Paris, UNESCO. 1997.
- ☞ BHATT (RK). Information systems. Delhi, Pragati Publications. 2009.
- ☞ BOURGEOIS (DT) and others. Information systems for business and beyond. Saylor Foundation. 2014.

Suggested Readings

- ☞ BURCH (JG) and GRUDNITSKI (G). Information systems: Theory and practice. Singapore, Wiley. 1986.
- ☞ JAEGER (PT) and others. Foundations of information policy. Chicago, ALA Neal-Schuman. 2019.
- ☞ ROWLEY (J). The basics of information systems. London, Library Association. 1996.

DSE 1

Universal Decimal Classification: Practical

**120 Hours
(120hrs Practical)**

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE 1: Universal Decimal Classification: Practical	4	0	0	4	BLISc	Basics of Classification Theory and Practice

Course Objectives

This course provides practical training in the Universal Decimal Classification system. Students will learn to analyze subject concepts, apply common and special auxiliaries, and use number-building techniques to accurately classify simple, compound, and complex interdisciplinary documents using UDC schedules.

Learning Outcomes

After completing this course, students will be able to:

- ☞ Understand and explain the framework, structure, and purpose of the Universal Decimal Classification (UDC) system.
- ☞ Classify documents with simple and compound subjects accurately using UDC schedules.
- ☞ Apply common and special auxiliaries, and UDC devices effectively in classification.
- ☞ Construct class numbers for complex, interdisciplinary, and compound subject documents using UDC.

UNIT I: Introduction to UDC

25 Hours

- ☞ Structure and Organization of UDC Schedules
- ☞ Principles of Classification and Synthesis in UDC
- ☞ Main Classes, Divisions and Notation System

UNIT II: Classification of Simple and Compound Subjects

35 Hours

- ☞ Subject Analysis: Identifying Main Concepts
- ☞ Assigning Class Numbers to Simple Subjects
- ☞ Classification of Documents with Compound Subjects
- ☞ Use of Schedules and Indexes for Number Building

UNIT III: Auxiliaries in UDC

35 Hours

- ☞ Introduction to Common Auxiliaries
- ☞ Introduction to Special Auxiliaries
- ☞ Application Rules with Examples
- ☞ Positioning Auxiliaries in Class Numbers

UNIT IV: Devices and Classification of Complex Subjects

25 Hours

- ☞ Number Building for Complex and Interdisciplinary Subjects
- ☞ Practical Exercises on Classifying Complex Documents
- ☞ Introduction to UDC Online

Essential Readings

- ☞ SINGH (KP) UDC: A manual for classification practice and information resources. New Delhi, Today and Tomorrow's Printers India. 2013.
- ☞ UNIVERSAL DECIMAL CLASSIFICATION. Latest ed. London, British Standards Institution.

Suggested Readings

- ☞ MCILWAINE (IC). The universal decimal classification: a guide to its use. The Hague, UDC Consortium. 2007.
- ☞ UNIVERSAL DECIMAL CLASSIFICATION. Latest ed. London, British Standards Institution.

DSE 2a

Data Analytics and Visualization

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE 2a: Data Analytics and Visualization	4	3	1	0	BLISc	-

Course Objectives

This course introduces the principles of data analytics and visualization within library settings. Students will master the data lifecycle, from cleaning usage statistics to performing exploratory analysis while learning to create impactful visual stories using bibliometric, network, and geographic visualization tools for evidence-based reporting.

Learning Outcomes

After completing this course, students will be able to:

- ☞ Introduce the concept of data analytics and visualization in the library environment.
- ☞ Analyze and interpret library datasets effectively.
- ☞ Apply techniques for visual representation of library data.
- ☞ Use modern analytics and visualization tools in library contexts.

UNIT I: Foundations of Data Analytics and Visualization

11 Hours

- ☞ Data Sources in Libraries: Usage Statistics, OPAC Logs, Repository Data, Bibliographic and Citational Data
- ☞ Data Lifecycle: Collection, Cleaning, Processing, Analysis, and Interpretation
- ☞ Data Analytics: Concept, Need, Scope, Purpose and Types
- ☞ Data Visualization: Concept, Need, Purpose and Principles
- ☞ Ethical Issues in Data Analytics and Visualization

UNIT II: Data Preparation and Exploratory Data Analysis

12 Hours

- ☞ Data Collection Methods and Formats
- ☞ Data Cleaning and Preprocessing
- ☞ Exploratory Data Analysis
- ☞ Descriptive and Inferential Statistics for Data Analysis
- ☞ Data Tabulation and Graphical Presentation

UNIT III: Data Visualization Techniques

12 Hours

- ☞ Principles of Effective Visualization and Storytelling with Data
- ☞ Types of Visualizations
- ☞ Network and Citation Visualization
- ☞ Visualization of Time-Series and Multivariate Data
- ☞ Geographic Visualization and Mapping
- ☞ Visualization of Bibliometric and Scientometric Data

UNIT IV: Tools and Applications of Data Visualization

10 Hours

- ☞ Tools for Data Analysis and Visualization
- ☞ Data Visualization for Digital Libraries and Institutional Repositories
- ☞ Bibliometric and Scientometric Visualization Tools
- ☞ Dashboard Creation and Reporting
- ☞ Trends in Data Analytics and Visualization

Essential Readings

- ☞ CHEN (C). CiteSpace: A practical guide for mapping scientific literature. New York, Nova Science Publishers. 2016.
- ☞ EVERGREEN (SDH). Effective data visualization: The right chart for the right data. Thousand Oaks, CA, SAGE Publications. 2016.
- ☞ FRIENDLY (M) and DENIS (D). Milestones in the history of thematic cartography, statistical graphics, and data visualization. Toronto, York University. 2001.
- ☞ HEALY (K). Data visualization: A practical introduction. Princeton, Princeton University Press. 2018.

Suggested Readings

- ☞ KNAFLIC (CN). *Storytelling with data: A data visualization guide for business professionals*. Hoboken, NJ, Wiley. 2015.
- ☞ MUNZNER (T). *Visualization analysis and design*. Boca Raton, CRC Press. 2014.
- ☞ TUFTE (ER). *The visual display of quantitative information*. Cheshire, CT, Graphics Press. 2001.
- ☞ WILKE (CO). *Fundamentals of data visualization: A primer on making informative and compelling figures*. Sebastopol, CA, O'Reilly Media. 2019.

DSE 2b

Content Development: Practical

120 Hours
(120hrs Practical)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE 2b: Content Development: Practical	4	0	0	4	BLISc	-

Course Objectives

This course provides practical skills in creating and hosting digital content for library environments. Students will master multimedia design, CSS-based website development, and the creation of subject gateways, while ensuring accessibility standards, data security, and proper server configuration for professional web hosting.

Learning Outcomes

After completing this course, students will be able to:

- ☞ Understand the concept of content development
- ☞ Able to design, create, develop and maintain online content
- ☞ Learn critical evaluation of website quality and maintenance of quality web pages
- ☞ Get acquainted with web design standards, their importance and how to manipulate images as per requirements.

UNIT I: Image and Graphics Design

25 Hours

- ☞ Images and Logo Creation
- ☞ Creation of Audio and Visual Contents
- ☞ Multimedia Content Creation

UNIT II: Design and Development of Library Websites

35 Hours

- ☞ Content Creation and Management
- ☞ Cascading Style Sheets (CSS)
- ☞ Design and Development of Library Website

UNIT III: Design and Development of Subject Gateways

35 Hours

- ☞ Content Creation and Management
- ☞ Design and Development of Subject Gateway

UNIT IV: Hosting of Web Contents

25 Hours

- ☞ Data Security
- ☞ Server Configuration
- ☞ Domain Configuration
- ☞ Hosting of Library Website and Subject Gateway

Essential Readings

- ☞ CEDERHOLM (D). CSS3 for web designers. New York: A Book Apart. 2015.
- ☞ CLARK (J). Building accessible websites. Indianapolis: New Riders Publishing. 2002.
- ☞ COOMBS (N). Making online teaching accessible. San Francisco: Jossey-Bass. 2010.
- ☞ CUNNINGHAM (K). The accessibility handbook. Sebastopol, CA: O'Reilly Media. 2012.
- ☞ DUCKETT (J). Accessible XHTML and CSS: Web sites problem design solution. Birmingham: Wrox. 2005.
- ☞ FELKE-MORRIS (T). Basics of web design: HTML5 and CSS3. Boston: Addison-Wesley. 2013.

Suggested Readings

- ☞ HORTON (S). Access by design: A guide to universal usability for web designers. Indianapolis: New Riders Publishing. 2005.
- ☞ HORTON (S) and QUESENBERRY (W). A web for everyone. Brooklyn: Rosenfeld Media. 2012.

- ☞ HORTON (S) and QUESENBERRY (W). Universal design for web accessibility. Brooklyn: Rosenfeld Media. 2014.
- ☞ HRICKO (M), ed. Design and implementation of web-enabled teaching tools. Hershey, PA: Idea Group Publishing. 2002.
- ☞ KIRKPATRICK (A) and others. Web accessibility: Web standards and regulatory compliance. New York: Friends of ED. 2006.
- ☞ MEIERT (JO). Little book of HTML/CSS coding guidelines. Sebastopol, CA: O'Reilly Media. 2015.
- ☞ RUSHBY (N) and others. Wiley handbook of learning technology. Hoboken, NJ: Wiley. n.d.

DSE 2c

Cataloguing of Non-Book Materials: Practical

120 Hours
(120hrs Practical)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE 2c: Cataloguing of Non-Book Materials: Practical	4	0	0	4	BLISc	Basics of Cataloguing Theory and Practice

Course Objectives

This course provides practical training in cataloguing non-book materials using international standards like AACR2, MARC21, and RDA. Students will learn to create bibliographic records for diverse formats, including cartographic materials, manuscripts, and electronic resources, while applying subject headings and exploring modern frameworks like FRBR.

Learning Outcomes

After completing this course, students will be able to:

- ☞ Apply principles and rules in preparing cataloguing entries/ records for the bibliographic entities such as books and periodicals.
- ☞ Apply principles and rules in preparing catalogues for the non-book materials including electronic resources as per the Anglo-American Cataloguing Rules.
- ☞ Assign the subject headings using Sears List of Subject Headings for the items.
- ☞ Create records using MARC21, RDA and FRBR

UNIT I: Introduction to Cataloguing Standards **25 Hours**

- ☞ Anglo American Cataloguing Rules II
- ☞ Library of Congress Subject Headings List
- ☞ Machine Readable Catalogue (MARC)

UNIT II: Non-Book Materials **35 Hours**

- ☞ Cartographic Materials
- ☞ Manuscripts
- ☞ Music
- ☞ Graphic Materials
- ☞ Three-Dimensional Artifacts and Relics

UNIT III: Electronic Resources and Web Resources **35 Hours**

- ☞ Sound Recordings
- ☞ Motion Pictures and Video Recordings
- ☞ Electronic Resources: Web Resources, Online and Offline Databases
- ☞ Microforms
- ☞ Continuing Resources: Integrated Resources

UNIT IV: Trends in Cataloguing **25 Hours**

- ☞ Resource Description and Access (RDA)
- ☞ Functional Requirements for Bibliographic Records (FRBR)
- ☞ AI Tools for Cataloguing

Essential Reading

- ☞ AMERICAN LIBRARY ASSOCIATION. Anglo-American Cataloguing Rules. London, Library Association. 2005.
- ☞ AMERICAN LIBRARY ASSOCIATION. Resource Description and Access: Toolkit. 2024. Available at: <https://www.rdatoolkit.org/>
- ☞ LIBRARY OF CONGRESS. Library of Congress Subject Headings. Latest edition. Washington, Library of Congress.
- ☞ LIBRARY OF CONGRESS. Resource Description and Access. Available at: <https://www.loc.gov/aba/rda/>

- ☞ OCLC. Functional Requirements for Bibliographic Records. Available at: <https://www.oclc.org/research/activities/frbr.html>

Suggested Reading

- ☞ BENNETT (Rick), LAVOIE (Brian F.) and O'NEILL (Edward T.). "The Concept of a Work in WorldCat: An Application of FRBR." Library Collections, Acquisitions and Technical Services, 27(1), Spring 2003. Available at: https://www.oclc.org/content/dam/research/publications/library/2003/lavoie_frbr.pdf
- ☞ O'NEILL (Edward T). "Functional Requirements for Bibliographic Records: OCLC's Experience Identifying and Using Works." Given at FRBR Workshop, 8-9 July 2004,
- ☞ WILKIE (Chris). Managing film and video collections. London, ASLIB. 1999.

GE 1a

Research Metrics and Visibility

60 Hours
(45hrs Lect. + 15hrs Tut.)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
GE 1a: Research Metrics and Visibility	4	3	1	0	BLISc	-

Course Objectives

This course covers the quantitative evaluation of scientific literature and research impact. Students will apply bibliometric laws, growth models, and citation analysis to measure research productivity and visibility, while exploring modern indicators like the h-index and Altmetrics for individual and institutional performance.

Learning Outcomes

After completing this course, students will be able to:

- ☞ Apply bibliometric, informetrics laws for quantitative and qualitative measurement of documents / information.
- ☞ Measure the performance of individuals and countries applying the principles of informetrics.
- ☞ Identify the growth and obsolescence of literature in a specific discipline / subject.
- ☞ Evaluate the quality of literature by using quality indicators such as citation analysis.
- ☞ Apply the informetrics and other metrics for collection development/ access.

UNIT I: Introduction to Metric Studies**10 Hours**

- ☞ Librametry, Bibliometrics, Scientometrics, Informetrics and Webometric
- ☞ Scientific Indicators
- ☞ Trends in Metric Studies

UNIT II: Growth Models and Scientific Collaboration**11 Hours**

- ☞ Growth and Obsolescence of Literature: Growth Models, Aging factor and half-life: Real vs. Apparent, Synchronous vs. Diachronous
- ☞ Collaborative Measures and Indicators

UNIT III: Bibliometric Laws and Its Application**12 Hours**

- ☞ Bibliometrics Laws: Bradford, Lotka and Zipf
- ☞ Bibliometrics Distributions
- ☞ Informetrics Models: Bradford's Curve, Leimukuhler's Distribution, etc
- ☞ Concentration Measures: 80-20 Rule, Price's Law related to Scientific Productivity

UNIT IV: Citation Analysis and Altmetrics**12 Hours**

- ☞ Citation Analysis: Bibliographic Coupling and Co-Citation Analysis
- ☞ Science Indicators: Impact factor, h-index, g-index, i-10, Mapping of Science
- ☞ Author level and Article Level Metrics
- ☞ Altmetrics Tools and Techniques

Essential Reading

- ☞ BAKER (SL) and LANCASTER (SW). Measurement and evaluation of library services. Ed. 2. Arlington: Information Resources Press. 1991.
- ☞ JIBU (Mari) and OSABE (Yoshiyuki). Scientometrics. London: IntechOpenLtd .doi: 10.5772/intechopen.72488
- ☞ EGGHE (L) and ROUSSEAU (R). Introduction to informetrics: Quantitative methods in library, documentation and information science. Amsterdam: Elsevier. 1990.

- ☞ GARFIELD (E). Citation indexing: Its theory and application in science, technology and humanities. New York: John Wiley. 1979.
- ☞ GARG (KC). Introduction to bibliometrics and scientometrics. Ess Ess Publication, 2024
- ☞ RAO (I K R). Quantitative methods for library and information science. New Delhi: Wiley Eastern. 1985.
- ☞ SANGAM (SL). Scientometrics: qualitative methods for library and information science. Bangalore, Content Craft. 2015.
- ☞ TATTERSALL (Andy) Ed. Altmetrics: A practical guide for librarians, researchers and academics. Facet Publishing, 2016

Suggested Reading

- ☞ CARPENTER (RL) and VASU (ES). Statistical methods for librarians. Chicago: ALA. 1979.
- ☞ CRONIN(Blaise) (Editor) and SUGIMOTO (Cassidy R) Eds. Beyond Bibliometrics: Harnessing Multidimensional Indicators of Scholarly Impact. 1st Edition. MIT Press, 2014.
- ☞ DONOHUE (JC). Understanding scientific literature: A bibliometric approach. London: MIT Press. 1990.
- ☞ EGGHE (L) and ROUSSEAU (R). Elementary statistics for effective library and information services management. London: ASLIB. 2001.
- ☞ RAO (IKR). Growth of Literature .and Measures of Scientific productivity. Delhi: Ess Ess Publication, 2010.

GE 1b

Academic Writing Tools: Practical

120 Hours
(120hrs Practical)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
GE 1b: Academic Writing Tools: Practical	4	0	0	4	BLISc	-

Course Objectives

This course develops proficiency in ethical academic writing by integrating AI-driven tools for literature synthesis, data analysis, and content creation. Students will master search strategies, grammar enhancement, and citation management while navigating the complexities of scholarly publishing, including peer-review processes and the prevention of plagiarism.

Learning Outcomes

After completing this course, students will be able to:

- ☞ Develop proficiency in academic and research writing, with effective and ethical use of digital and AI-based writing tools.
- ☞ Impart skills for conducting systematic literature reviews using specialized tools.
- ☞ Enhance competence in data analysis, interpretation, and scholarly communication.
- ☞ Manage citations and references using reference management tools and promote awareness of referencing, plagiarism detection, and publishing ethics.

UNIT I: Content Creation for Academic Writing **30 Hours**

- ☞ Search Strategy Development, Keyword Optimization, and Citation Chaining
- ☞ Content creation, editing, and formatting for research publications
- ☞ Ethical Use of Artificial Intelligence Tools for Article Writing

UNIT II: Review of Literature and Scholarly Discovery **30 Hours**

- ☞ Bibliometric and Visualization Techniques
- ☞ AI-assisted Literature Review and Summarization
- ☞ Exploration of Various Types of Databases
- ☞ Managing and Synthesizing Scholarly Information

UNIT III: Grammar, Paraphrasing, Data Analysis, and Interpretation **30 Hours**

- ☞ Grammar and Paraphrasing and Summarization
- ☞ AI-Driven Data Collection and Analysis
- ☞ Data Visualization and Interpretation in Research

UNIT IV: Referencing, Publishing, and AI-Enhanced Academic Communication **30 Hours**

- ☞ Reference Management and Citation Creation
- ☞ Web and AI-based Citation Generation and Plagiarism Detection
- ☞ Scholarly Publishing: Journal Selection, Peer-Review, and Open Access
- ☞ Identifying predatory journals and maintaining publication ethics

Essential Readings

- ☞ BOOTH (W C), COLOMB (G G) and WILLIAMS (J M). The craft of research. University of Chicago Press. 2024.
- ☞ HART (C). Doing a literature review: Releasing the social science research imagination. Sage. 2025.
- ☞ PAN (L M) and CRAVEN (J S). Preparing literature reviews. Routledge. 2024.
- ☞ UGC. Regulations on academic integrity and plagiarism. 2018.

- ☞ UNESCO. Recommendation on the ethics of artificial intelligence. 2021.

Suggested Readings

- ☞ MADHUSUDHAN (M). AI in action: enhancing every stage of scientific publishing. In Management of Digital Information Resources. Noida: Allied Publishers, 51-64. 2024.
- ☞ ONLINE Tutorials and documentation for Content creation, review of literature, grammar, paraphrasing, data analysis and referencing tools.
- ☞ WIPO. Artificial intelligence and intellectual property. Available at <https://www.wipo.int/portal/en/index.html>

GE 1c

Reference Creation and Management Tools: Practical

120 Hours
(120hrs Practical)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/ Practice		
GE 1c: Reference Creation and Management Tools: Practical	4	0	0	4	BLISc	-

Course Objectives

This course provides practical training in managing bibliographic data using traditional and AI-driven tools. Students will master major citation styles like APA and MLA, learn to use reference managers such as Zotero and Mendeley, and leverage AI assistants for automated citation generation and literature organization across various platforms.

Learning Outcomes

After completing this course, students will be able to:

- ☞ Create, format, and export references using online and AI-based tools.
- ☞ Manage and organize bibliographic data through reference management software.
- ☞ Apply proper citation styles (APA, MLA, IS:IDBR, Chicago, Harvard, etc.) in academic writing.
- ☞ Integrate AI-driven research assistants (e.g., SciSpace, Semantic Scholar, Paperpal) for literature discovery and citation generation.

UNIT I: Reference Creation and Management 30 Hours

- ☞ Citation Styles: APA, MLA, Chicago, Harvard, IS: IDBR, IEEE, etc.
- ☞ Creation and Organization of Citations

UNIT II: Web-Based Citation Generators 30 Hours

- Creating References using Various Web-Based Citation Generators
- Exporting citations in Word, BibTeX, and RIS formats

UNIT III: Desktop and Cloud-Based Applications 30 Hours

- ☞ Installing and setting up accounts
- ☞ Importing, organizing, and annotating references
- ☞ Managing libraries, tags, and notes
- ☞ Integration with MS Word, Google Docs, and LaTeX

UNIT IV: AI-Based Citation Tools 30 Hours

- ☞ Creation of Citations using Various AI-based Tools
- ☞ Exporting citations in Word, BibTeX, and RIS formats

Essential Readings

- ☞ AMERICAN PSYCHOLOGICAL ASSOCIATION. Publication manual of the American psychological association. Ed. 7. American Psychological Association. 2020.
- ☞ MODERN LANGUAGE ASSOCIATION. MLA handbook. Ed. 9. Modern language association of America. 2021.
- ☞ DESHMUKH (R). Comparing traditional and AI-driven research tools: A library science perspective. Vidyawarta. 2024.

Suggested Readings

- ☞ PETAL. Petal[computer software]. Data analysis platform. Available at: <https://www.petal.org/>. 2026.
- ☞ ENDNOTE. EndNote [computer software]. EndNote. Available at: <https://endnote.com/2017>.
- ☞ MENDELEY. Mendeley: Reference management software and researcher network computer software]. Elsevier. Available at: <https://www.mendeley.com/>. 2018.

- ☞ ONLINE INDIAN CITATION GENERATION TOOL [computer software]. Available at: <https://oicgt.vercel.app/>. 2026.
- ☞ SCISPACe. SciSpace [computer software]. SciSpace.com. Available at: <https://scispace.com/2025>.
- ☞ SEMANTIC SCHOLAR. Semantic Scholar: an academic search engine for scientific articles [web application]. Available at: <https://www.semanticscholar.org/>. 2019.
- ☞ ZOTERO. Zotero: Your personal research assistant [computer software]. Zotero.org. Available at: <https://www>.